

ABSTRACT

[0074] An olefin polymerization process and apparatus wherein a fluid slurry comprising monomer, diluent and catalyst is circulated in a continuous loop reactor by two or more pumps. The process and apparatus allow operating the reaction at significantly higher solids content in the circulating fluid slurry. In a preferred embodiment, the fluid slurry is circulated by two impellers arranged so that the downstream impeller benefits from the rotational energy imparted by the upstream impeller. An olefin polymerization process operating at higher reactor solids by virtue of more aggressive circulation has improved efficiencies, particularly in larger-volume reactors.